

CONTENTS

Volume 9, Issue Nos. 1-12

SOFTWARE—PRACTICE & EXPERIENCE

Issue No. 1, JANUARY

B. W. Kernighan and J. R. Mashey: The UNIX TM Programming Environment	1
N. Graef, H. Kretschmar, K.-P. Loehr and B. Morawetz: How to Design and Implement Small Time-sharing Systems Using Concurrent Pascal	17
J. Madsen: CCL—A High-level Command Language	25
D. A. Turner: A New Implementation Technique for Applicative Languages	31
S. Lauesen: Debugging Techniques	51
B. Ford, J. Bentley, J. J. Du Croz and S. J. Hague: The NAG Library 'Machine'	65
I. T. Parsons: A Support System for Interactive Languages	73

Issue No. 2, FEBRUARY

V. Chvalvoský: New Techniques for COBOL Programmers	87
M. Tratner: A Fundamental Approach to Debugging	97
C. D. Marlin: A Heap-based Implementation of the Programming Language Pascal	101
C. W. Fraser: A Compact, Portable CRT-based Text Editor	121
W. J. Tracz: Computer Programming and the Human Thought Process	127
E. Spitz and A. Yuval: Public Online Pool—A Method for Managing Online Direct Access Space	139
D. Jones, A. B. Baskin, T. Chen and L. Bloomfield: Programs as Higher Level Subroutines	149
A. T. F. Hutt: A Compiler Model for a Relational Data Base Management System	157
Short Communication	171
Letter to the Editor	172
Book Review	172

Issue No. 3, MARCH

J. L. Schonfelder and J. T. Thomason: Arbitrary Precision Arithmetic in Algol 68	173
T. M. R. Ellis: Parallel Processing in an Adaptable Application Oriented Language Processor	183
J. W. Hughes: A Formalization and Explication of the Michael Jackson Method of Program Design	191

...

D. Comer: MAP: A Pascal Macro Preprocessor for Large Program Development	203
P. B. Hansen and C. Hayden: Microcomputer Comparison	211
J. J. Dongarra and A. R. Hinds: Unrolling Loops in FORTRAN	219
M. H. Williams: Long/Short Address Optimization in Assemblers	227
V. W. Setzer: Non-recursive Top-down Syntax Analysis	237
Short Communications	247
Letters to the Editor	249
Book Reviews	250

Issue No. 4, APRIL

S. I. Feldman: Make—A Program for Maintaining Computer Programs	255
A. V. Aho, B. W. Kernighan and P. J. Weinberger: Awk—A Pattern Scanning and Processing Language	267
F. G. Pagan: A Highly-structured Interpreter for a SNOBOL4 Subset	281
S. P. Mudur, A. W. Narwekar and A. Moitra: Design of Software for Text Composition	313
A. Moitra, S. P. Mudur and A. W. Narwekar: Design and Analysis of a Hyphenation Procedure	325
Short Communication	339

Issue No. 5, MAY

M. M. Al-Jarrah and I. S. Torsun: An Empirical Analysis of COBOL Programs	341
A. T. F. Hutt: Organizing the Description of a Relational Data Base	361
C. H. Sauer and E. A. MacNair: Queueing Network Software for Systems Modelling	369
A. M. Addyman, R. Brewer, D. G. Burnett-Hall, R. M. De Morgan, W. Findlay, M. I. Jackson, D. A. Joslin, M. J. Rees, D. A. Watt, J. Welsh and B. A. Wichmann: A Draft Description of Pascal	381
Book Reviews	425

Issue No. 6, JUNE

L. V. Atkinson: Pascal Scalars as State Indicators	427
P. J. Brown: Macros without Tears	433
M. Sassa: A Pattern Matching Macro Processor	439
B. S. Carter: File Maintenance Using a Line Editor	457

VOLUME CONTENTS

v

R. P. Van de Riet and R. Wiggers: Practice and Experience with BASIS: an Interactive Programming System for Introductory Courses in Informatics	463
T. M. R. Ellis: A Useful Data-structuring Technique	477
S. Kawai: Lattice Structure Segmentation of ALGOL-like Programs . . .	485
R. A. Fjellheim: A Message Distribution Technique and its Application to Network Control	499
Short Communications	507
Letter to the Editor	510
Book Review	511

Issue No. 7, JULY

M. Richards, A. R. Aylward, P. Bond, R. D. Evans and B. J. Knight: TRIPOS—A Portable Operating System for Mini-computers	513
M. Richards: A Compact Function for Regular Expression Pattern Matching	527
W. S. Bowie and J. G. Linders: A Software Trace Facility for OS/MVT . .	535
J. D. Gannon and J. Rosenberg: Implementing Data Abstraction Features in a Stackbased Language.	547
M. S. Powell: Experience of Transporting and Using the SOLO Operating System	561
R. L. Sites: Resolving Ambiguous Identifiers	571
D. Grune: Choosing a Tag-list Algorithm for a Compiler with Special Application to the ALEPH Compiler	575
Short Communications	595
Book Review	597

Issue No. 8, AUGUST

G. R. Frank and C. J. Theaker: The Design of the MUSS Operating System	599
G. R. Frank and C. J. Theaker: MUSS—The User Interface	621
C. J. Theaker and G. R. Frank: MUSS—A Portable Operating System . .	633
H. Barringer, P. C. Capon and R. Phillips: The Portable Compiling Systems of MUSS	645
C. J. Theaker and G. R. Frank: An Assessment of the MUSS Operating System	657
A. H. J. Sale: Strings and the Sequence Abstraction in Pascal	671
T. Middleton: Automatic Generation of Aggregate Operators in ALGOL 68	685
Short Communication	691

Issue No. 9, SEPTEMBER

L. V. Atkinson: Should if... then... else... Follow the Dodo?	693
J. Lions: Experiences with the UNIX Time-sharing System	701
J. M. Bishop: On Publication Pascal	711
G. Papakonstantinou: A Poor Man's Realization of Attribute Grammars	719
J. Jensen, S. Lauesen and A. P. Ravn: Synchronization under a Commercial Operating System	729
J. Palme: A Human-Computer Interface for Non-computer Specialists	741
K. T. Narayana, V. R. Prasad and M. Joseph: Some Aspects of Concurrent Programming in CCNPASCAL	749
N. Natarajan and M. K. Sinha: Language Issues in the Implementation of a Kernel	771
J. M. Bishop: Implementing Strings in Pascal	779
Short Communications	789
Letter to the Editor	792
Book Review	792

Issue No. 10, OCTOBER

A. F. Sanders and H. L. Gelernter: Data Metastructures	795
H. G. Stiegler: A Structure for Access Control Lists	813
A. Sale: Pascal Stylistics and Reserved Words	821
D. Coleman, R. M. Gallimore, J. W. Hughes and M. S. Powell: An Assessment of Concurrent Pascal	827
A. Sale: Implementing Strings in Pascal—Again	839
S. Panchapakesan, H. Venkateswaran and S. Subramanian: Assemblers for Microcomputers	843
I. C. Wand: Systems Implementation Languages and IRONMAN	853
Short Communications	879

Issue No. 11, NOVEMBER

J. R. Wolberg and M. Rafal: Using Convert to Transform Source Code	881
H. R. Sethi and D. H. Paul: MPlot3—A System-independent Plotting Package	891
I. C. Pyle: Input/Output in High Level Programming Languages	907
A. Sale: Miniscules and Majuscules	915
D. R. Hanson: A Simple Technique for Controlled Communication Among Separately Compiled Modules	921
J. G. Vaucher: Sequence Error Recovery Considered Misleading	925

VOLUME CONTENTS

vii

M. Machura: Implementation of a Special-purpose Language using Pascal Implementation Methodology	931
J. Welsh and D. W. Bustard: Pascal-Plus—Another Language for Modular Multiprogramming	947
B. M. Eaglestone and N. J. Partington: A Campus Network Based on ICL 2900 Series Protocol	959
Short Communication	969

Issue No. 12, DECEMBER

A. Lindgård: P-A Timesharing Operating System for Laboratory Automation	971
R. Meeson and A. Pyster: Overhead in FORTRAN Preprocessors . . .	987
S. K. Shrivastava: Concurrent Pascal with Backward Error Recovery: Language Features and Examples	1001
S. K. Shrivastava: Concurrent Pascal with Backward Error Recovery: Implementation	1021
M. S. Johnson: Translator Design to Support Run-time Debugging . . .	1035
J. Nehmer: The Implementation of Concurrency for a PL/I-like Language .	1043
Letter to the Editor	1059
Author Index	1061
Key Word Index	1063



